

Lesson Goal	<ul style="list-style-type: none"> <li>- To make reasonable predictions in probability experiments</li> <li>- To have students use probability vocabulary</li> </ul>
Curriculum Expectations	<ul style="list-style-type: none"> <li>- Predict the frequency of an outcome in a simple probability experiment, explaining their reasoning; conduct the experiment; and compare the result with the prediction</li> <li>- Determine, through investigation, how the number of repetitions of a probability experiment can affect the conclusions drawn</li> </ul>
Big Idea(s)	Sometimes a probability can be estimated by using an appropriate model and conducting an experiment

<b>3 Part Lesson Plan</b>		<b>Materials</b>
<b>Getting Started (Minds On...)</b>		
Instructional Grouping: Whole Class – pairs – whole class <ul style="list-style-type: none"> <li>- Students are asked what probability terms they know/remember</li> <li>- Teacher draws a probability line on the board:</li> </ul> <div style="text-align: center; margin: 10px 0;"> </div> <ul style="list-style-type: none"> <li>- Students are given probability scenarios on post-it notes with examples such as: it will rain tomorrow, every student will get an A on the next test, the sun will rise in the morning, etc. (there are 2 copies of each scenario, randomly distributed to students)</li> <li>- Students must find their scenario partner then discuss the probability of their scenario occurring and where it would fit on the probability line. Students stick their post-its to the probability line</li> <li>- Teacher discusses why students posted the scenarios where they did</li> </ul>		<ul style="list-style-type: none"> <li>- Post-it notes with probability scenarios written on them</li> </ul>
<b>Working On It (Action!)</b>		
Instructional Grouping: Groups of 3 <ul style="list-style-type: none"> <li>- In groups of 3, students label themselves A, B and C</li> <li>- Two coins are tossed. If the outcome is 2 heads, person A gets a point. If the outcome is 2 tails, person B gets a point. If the outcome is a combination of heads and tails, person C gets a point</li> <li>- Students will toss the coins 20 times and record their results in a chart. They are asked to predict what will happen in the game before beginning</li> <li>- Students who finish a game of 20 tosses can play again, but must make another prediction about the outcome</li> </ul>		<ul style="list-style-type: none"> <li>- 2 different coins per group of 3</li> <li>- Pre-made recording charts for students who need them</li> </ul>
<b>Reflecting and Connecting (Consolidate/Debrief)</b>		
Debrief Strategy: Whole Class Discussion <ul style="list-style-type: none"> <li>- The class is polled to find out how many games were won by players A, B and C</li> <li>- The totals from all the individual games are compiled and listed on the board, showing that around 50% of all tosses end up giving player C a point</li> </ul>		<ul style="list-style-type: none"> <li>- Chart paper</li> <li>- markers</li> </ul>

<ul style="list-style-type: none"> <li>- Students are given chart paper and are asked to try and explain why player C wins almost every game</li> <li>- Students share their explanations</li> <li>- Teacher debriefs by showing the 4 possible combinations when tossing two coins, showing that 2 out of 4 outcomes result in a combination of heads and tails</li> </ul>	
Follow-up	
If the coin toss game went up to 100 instead of 20, who would win, and how many games would they be expected to win?	